We claim:

1. A biocompatible, polymerizable, macromer composition comprising at least one NO carrying region or NO modulating compound, wherein NO or NO modulating compound is released from the macromer composition following polymerization, under physiological conditions, wherein the macromers comprise regions selected from the group consisting of water soluble regions, tissue adhesive regions, and polymerizable end group regions.

2. The macromer composition of claim 1 wherein the macromer composition comprises additional macromers which do not release NO following polymerization.

3. The macromer composition of claim 1 wherein the macromer further comprises crosslinkable side groups.

4. The macromer composition of claim 1 wherein the macromer comprises at least one degradable region.

5. The macromer composition of claim 1 wherein the macromer is water soluble.

6. The macromer composition of claim 1 wherein the macromer adheres to tissue.

7. The macromer composition of claim 1 wherein the macromer comprises a water soluble region attached to a degradable region, at least one polymerizable region attached to the water soluble region, and at least one polymerizable region attached to the degradable region.

8. The macromer composition of claim 4 wherein the degradable region is a central core, at least two water soluble regions are attached to the core, and at least one polymerizable region is attached to each water soluble region.

9. The macromer composition of claim 1 wherein the macromer comprises a water soluble region forming a central core, at least two degradable regions attached to the core, and at least two polymerizable regions attached to the degradable regions.

10. The macromer composition of claim 1 further comprising

therapeutic, prophylactic or diagnostic agents selected from the group consisting of proteins, carbohydrates, nucleic acids, organic molecules, inorganic biologically active molecules, cells, tissues, and tissue aggregates, and diagnostic agents.

11. The macromer composition of claim 1 wherein the macromer comprises at least one water soluble region, at least one NO carrying region and at least one free radical polymerizable region.

12. The macromer composition of Claim 11 further comprising at least one degradable region.

13. The macromer composition of claim 1 having incorporated therein or releasably bound thereto a compound modulating NO levels under physiological conditions.

14. The macromer composition of claim 1 releasing NO under physiological conditions.

15. A method for modulating NO levels in tissue comprising administering to the tissue any of the macromer compositions of claims 1-14.

16. The method of claim 15 further comprising first applying a polymerization initiator at the site where the macromer composition solution is to be polymerized.

17. The method of claim 16 wherein the initiator binds to the tissue, further comprising removing unbound initiator prior to application of the macromer composition solution.

18. A method for controlled release of therapeutic, prophylactic, or diagnostic agents comprising administering to tissue in need thereof a biocompatible, polymerizable, macromer composition comprising at least one NO carrying region or NO modulating compound, wherein NO or NO modulating compound is released from the macromer composition following polymerization, under physiological conditions, wherein the macromers comprise regions selected from the group consisting of water soluble regions, tissue adhesive regions, and polymerizable end group regions.comprising therapeutic, prophylactic or diagnostic agents selected from the group consisting

of proteins, carbohydrates, nucleic acids, organic molecules, inorganic biologically active molecules, cells, tissues, and tissue aggregates, and diagnostic agents.

19. A method for making a polymeric composition capable of releasing nitric oxide at physiological pH, the method comprising

polymerizing a solution of biocompatible macromers on tissue,

wherein the macromers comprise at least one NO carrying or producing region.

20. A method of treating a disorder or condition with NO comprising administering to an individual in need thereof a biocompatible, polymerizable, macromer composition comprising at least one NO carrying region or NO modulating compound, wherein NO or NO modulating compound is released from the macromer composition following polymerization, under physiological conditions, wherein the macromers comprise regions selected from the group consisting of water soluble regions, tissue adhesive regions, and polymerizable end group regions.

21. The method of claim 20 wherein the macromer further comprises degradable regions.

22. The method of claim 20 for treatment of a disorder or condition selected from the group consisting of wound healing, restenosis, thrombosis, asthma, arthritis, and erectile dysfunction.

23. The method of claim 20 wherein the macromer is adhered to tissue to prevent surgical adhesions, adhere tissue , provide support for tissue or coat the tissue.